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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/028,647	12/19/2001	Michele Goodwin	47613/SAH/X2	2661

35114 7590 02/10/2005

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EXAMINER	
CHEA, PHILIP J	
ART UNIT	PAPER NUMBER
2153	

DATE MAILED: 02/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/028,647	GOODWIN, MICHELE	
	Examiner	Art Unit	
	Philip J Chea	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2001*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☒ Claim(s) *7* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/22/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 1-22 have been examined.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 4/22/04 was filed after the mailing date on 4/28/04. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Objections

2. Claim 7 is objected to because of the following informalities:

- Note line 4 of claim 7, "is connect" is apparently "is connected".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 13,14, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 13 recites the limitation "the learned entries" in line 3. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 14 is rejected by virtue of being dependent upon a rejected claim.

7. Regarding claim 20, the phrase "rapid aging" renders the claim indefinite because it is unclear what the limitations of the claimed invention are.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1,2,4,6-14,21,22 rejected under 35 U.S.C. 102(e) as being anticipated by Stone (US 6,041,057).

As per claim 1, Stone discloses a communication network, as claimed, comprising:

- at least two switches, each switch being capable of maintaining a database of VLAN membership (see column 5, lines 49-62, where membership database is considered topology database);
- a backbone network interconnecting the switches (see Fig. 1); and
- at least one network node coupled to at least one of the switches (see column 6, lines 12-19, where network node is considered an end user),
- wherein the VLAN membership database in said at least two switches are synchronized with one another (see column 5, lines 26-36, where synchronization is considered advertising topology).

As per claim 2, Stone further disclose that the VLANs and VLAN membership are dynamically provisioned across the backbone network (see column 5, lines 49-62, where dynamically provisioned is implied by the switch being able to learn about the topology).

As per claim 4, Stone further discloses that when at least one network node is moved from a first switch to a second switch, the second switch is capable of advertising the move (see column 7, lines 7-30).

As per claim 6, Stone further discloses that a protocol between said at least two switches has topology discovery capability (see column 5, lines 26-36).

As per claim 7, Stone further discloses a capability to learn topology connectivity as to which port is connected to which other port (see column 6, lines 13-30).

As per claim 8, Stone further discloses a capability to learn topology connectivity of at least one selected from a group consisting of IP addresses, MACs and VLANs (see column 5, lines 26-36, where VLAN connectivity is disclosed).

As per claim 9, Stone further discloses that when a second switch is reachable through a plurality of IP addresses by a first switch, the first switch is capable of learning that the IP addresses are on the second switch with a plurality of addressable interfaces, each addressable interface corresponding to one of the IP addresses (see column 7, lines 31-55).

As per claim 10, Stone further discloses that the VLAN membership is determined by applying at least one policy with precedence policy to a specific traffic (see column 5, lines 49-62, where precedence policy is considered the const assigned to a link).

As per claim 11, Stone further discloses that one switch is capable of automatically discovering network nodes in the network (see columns 12 and 13, lines 52-67 and 1-50).

As per claim 12, Stone further discloses at least one switch advertises connectivity of at least one network node across at least a portion of the backbone network (see column 12 and 13, lines 52-67 and 1-50).

As per claim 13, Stone further discloses that when a network node is moved from a first port to a second, a VLAN membership for the network is remembered (see column 7, lines 7-30, where switches learn of the destination paths between two nodes).

As per claim 14, Stone further discloses that a first switch includes the first port and a second switch includes the second port (see column 7, lines 7-30).

As per claim 21, Stone discloses a method of updating a VLAN database, the method, as claimed, comprising:

- transmitting at least one update message from a first switch (see column 5, lines 26-48);
- receiving said at least one update manager at a second switch (see column 5, lines 26-48);
- checking at least one entry in said at least one update message against the VLAN database in the second switch (see column 5, lines 49-62, where adding topology data into a database requires checking the database); and
- if a new entry is found, updating the VLAN database with the new entry (see column 5, lines 49-62).

As per claim 22, Stone discloses automatically discovering at least one network node (see column 7, lines 7-30).

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 15-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbins et al. (US 5,825,772).

As per claim 15, Dobbins et al. disclose a communication network, as claimed, comprising:

- at least two switches, each switch being capable of maintaining a MAC table (see columns 9 and 10, lines 52-67 and 1-15, where MAC table is considered a mapping of MAC addresses);
- a backbone network interconnecting the switches (see Fig. 2); and
- at least one network node coupled to at least one of the switches (see column 10, lines 5-15),

- wherein said at least two switches exchange MAC information, wherein at least one switch uses the MAC information from at least one other switch to update its MAC table (see columns 2 and 3, lines 39-50 and 60-67 and 1-9).

As per claim 16, Dobbins et al. further disclose that at least one switch generates a frame that contains a unique ID (see column 2, lines 39-50).

As per claim 17, Dobbins et al. further disclose that at least one switch builds an adjacency table (see column 15, lines 6-16).

As per claim 18, Dobbins et al. further disclose that at least one switch advertises its VLAN membership information (see column 14, lines 47-64).

As per claim 19, Dobbins et al. further disclose that at least one switch generates a frame that includes a list of at least one virtual router port in that switch (see column 15, lines 6-32).

As per clam 20, Dobbins et al. further disclose a rapid aging of MAC takes place based on VLAN updates in at least one switch (see column 11, lines 33-50).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stone as applied to claim 1 above, and further in view of Bare (US 5,920,699).

Although the system disclosed by Stone shows substantial features of the claimed invention (discussed above), it fails to disclose that the VLANs and the VLAN membership are statically provisioned across the backbone network.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Stone, as evidenced by Bare.

In an analogous art, Bare discloses a communication network comprising at least two switches each having a database to hold VLAN membership, the databases being synchronized further where memberships are statically provisioned across the network (see column 14, lines 1-22).

Given the teaching of Bare, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Stone by employing static membership in a switch, such as disclosed by Bare, in order to be able to route broadcast packets (see Bare column 14, lines 15-22).

14. Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Stone as applied to claim 4 above, and further in view of Dobbins et al. (US 5,825,772).

Although the system disclosed by Stone shows substantial features of the claimed invention (discussed above), it fails to disclose not going through a full time out period after a node moves.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Stone, as evidenced by Dobbins et al.

In an analogous art, Dobbins et al. discloses a communication network where switches are synchronized and after a node moves, switch does not go through a full time out period (see column 11, lines 33-50).

Given the teaching of Dobbins et al., a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Stone by not going through a full time out period after a node moves, such as disclosed by Dobbins et al., in order to accommodate for an unknown mapping change.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Coden; Michael H.	US 6331985 B1
Bare; Ballard C.	US 6556541 B1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J Chea whose telephone number is 571-272-3951. The examiner can normally be reached on M-F 7:00-4:30 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Philip J Chea
Examiner
Art Unit 2153

PJC 1/26/2005